

IN THE CLAIMS:

1. **(Currently Amended)** A method for predicting the onset of a medical condition in a human patient, comprising:

measuring ~~[[a]]~~ concentration ~~level~~ levels of at least one breath ~~gases~~ gas exhaled by the patient over a period of time; ~~[[and]]~~

comparing said measured concentration ~~level~~ levels with ~~[[a]]~~ predetermined concentration ~~level~~ levels indicative of an onset of said medical condition; and

wherein said medical condition is selected from a set of medical conditions including pain and the occurrence of a stroke.

2. **(Cancelled)**

3. **(Cancelled)**

4. **(Currently Amended)** The method of Claim 1 for predicting the onset of a medical condition further including the step of generating ~~an index~~ a profile responsive to said measured concentration ~~level~~ levels, said ~~index~~ profile representative of a likelihood of onset for said medical condition.

5. **(Original)** The method of Claim 1 for predicting the onset of a medical condition wherein said measuring step includes measuring a concentration of carbon monoxide breath gas exhaled by the patient.

6. **(Currently Amended)** A method for predicting the onset of one or more sickle-cell anemia related pathologies in a human patient having sickle-cell anemia, comprising:

measuring a concentration ~~levels of one or more breath-gases~~ level of at least one breath gas exhaled by the patient over a period of time; and

comparing said measured concentration levels with a predetermined concentration levels profile indicative of an onset of ~~one or more selected~~ at least one sickle-cell pathology.

7. **(Original)** The method of Claim 6 wherein said sickle-cell anemia pathologies include one or more pathologies from a set of pathologies including pain, anemia, stroke, or infection.

8. **(Currently Amended)** The method of Claim 6 wherein each of said one or more selected sickle-cell anemia related pathologies are each influenced by a decreased ~~nitrous oxide~~ nitric oxide (NO) bioavailability.

9. **(Currently Amended)** A method for predicting the onset of at least one (NO)-related negative influence in a human patient, comprising:

measuring a concentration levels ~~of one or more breath gases~~ level of at least one breath gas exhaled by the patient over a period of time; [[and]]

comparing said measured concentration levels with a predetermined concentration levels profile indicative of an onset of at least one selected (NO)-related negative influence; and

wherein said at least one selected (NO)-related negative influence is associated with an ivHb-dependent decrease in (NO) bioavailability.

10. **(Currently Amended)** The method of Claim 9 wherein said (NO)-related negative influence ~~include~~ includes (NO)-related negative influences of hemolysis in a human patient and (NO)-related negative influences of chronic hereditary hemolytic disease in a human patient.

11. **(Original)** The method of Claim 10 wherein said one or more (NO)-related negative influences of chronic hereditary hemolytic disease include one or more pathologies from a set of pathologies including pulmonary hypertension, cutaneous ulceration, renal failure, thrombotic thrombocytopenic purpura, and malaria.

12. **(Cancelled)**

13. **(Currently Amended)** An apparatus for predicting the onset of a medical condition in a human patient, comprising:

means for measuring ~~[[a]]~~ a plurality of concentration levels of at least one breath gas exhaled by the patient; ~~[[and]]~~

means for comparing said measured concentration level ~~level~~ levels with at least one predetermined concentration ~~level~~ profile indicative of an onset of said medical condition; and

wherein said medical condition is selected from a set of medical conditions including pain and the occurrence of stroke.

14. **(Original)** The apparatus of Claim 13 wherein said means for comparing includes a logic circuit.

15. **(Currently Amended)** The apparatus of Claim 13 further including a display operatively coupled to said means for comparing;

wherein said means for comparing is further configured to generate an ~~index~~ profile responsive to said measured concentration level ~~level~~ levels, said ~~index~~ profile representative of a likelihood of onset for said medical condition; and

wherein said means for comparing is further configured to control said display to display said index profile.

16. (Cancelled)

17. (Cancelled)

18. (Original) The apparatus of Claim 13 wherein said means for measuring is configured to measure a concentration of carbon monoxide breath gas exhaled by the patient.